SONY

FM STEREO/FM-AM RECEIVER

STR-AV780
STR-AV880

OPERATING INSTRUCTIONS

Before operating the unit, please read this manual thoroughly. This manual should be retained for future reference.

STR-AV780

STR-AV880

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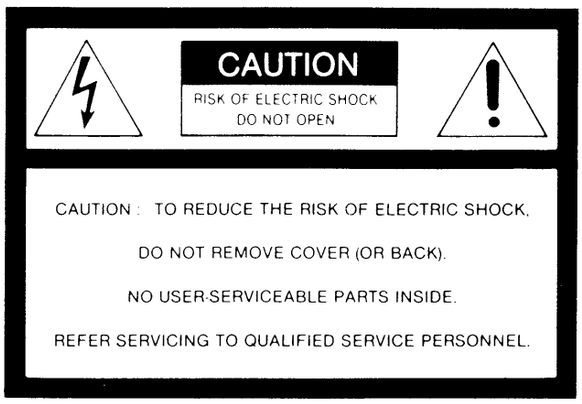
OWNER'S RECORD

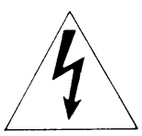
The model and serial numbers are located at the rear. Record these numbers in the space provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. _____ Serial No. _____

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

This instruction manual covers the STR-AV780 and the STR-AV880. Where differences occur, they are clearly described in the appropriate sections.
The photos and illustrations used in the manual are of the STR-AV880.

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..... **Memory scanning** page 12

FEATURES

The STR-AV780/AV880 is a combined receiver and audio/video control center that allows you to enjoy with maximum convenience a variety of audio/video program sources—CD (Compact Disc), record, tape, TV, hi-fi video, and more.

- A surround sound system gives your living room the acoustics of a movie theater or a concert hall.
- The ASP (Audio Signal Processor) IC developed by Sony can digitally control the tone and volume settings, and permits electronic program source selection with a single touch of a key.
- The ASP IC also offers an acoustic memory function, an ability to store and recall three sets of tonal adjustments, and a volume fade-in function, an ability to set the volume to the minimum level when the power is turned on and automatically increase it to a previously set level.
- A quartz-locked digital synthesizer system with a sophisticated Phase-Locked Loop (PLL) circuit allows extremely precise tuning of FM and AM stations with an electronic digital readout in the display window. A total of 10 stations can be preset.
- The computerized logic tuning system automatically selects the appropriate FM mode and FM IF band according to the signal strength of the station received.
- The station spectrum display allows you to identify at a glance the frequencies of all preset stations or stations which are receivable with station scan tuning.
- Video tapes can be edited between two hi-fi video cassette recorders connected. During video tape editing, other audio program sources can be enjoyed and added onto the video tape.
- Independent TV tuner inputs are provided besides the two video inputs.
- Front video inputs allows temporary connection of a portable VCR, etc.
- CATV cable can be connected directly to the receiver, making FM simulcast program reception easily.
- The RM-U880 Remote Commander* allows you to control the components connected to the receiver from a distance.

* The RM-U880 Remote Commander is supplied with the STR-AV880, and optional for the STR-AV780. For connections and operations using the RM-U880, refer to the instruction manual of the RM-U880.

PRECAUTIONS

On safety

- Operate the unit only on 120 V AC, 60 Hz.
- Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by prasping the plug. Never pull the cord itself.
- One blade of the plug is wider than the other for the purpose of safety and will fit into the power outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.

On installation

- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- Good air circulation is essential to prevent internal heat build-up in the unit. Place the unit in a location with adequate air circulation. Do not place the unit on a soft surface, such as a rug that would block the ventilation holes on the bottom.
- Do not place anything on top of the cabinet. The top ventilation holes must be unobstructed for the proper operation of the unit and to prolong the life of its components.

On operation

- Before making program source connections, be sure to turn the power switch off and unplug the unit.
- When the unit is not used, turn the power off, to conserve energy and to extend the useful life of your unit.

On cleaning the cabinet

Clean the cabinet, panel and controls with a soft cloth lightly moistened with mild detergent solution. Do not use any type of abrasive pad, scouring powder, or solvent such as alcohol or benzine.

On repacking

Do not throw away the carton and the packing material. It makes an ideal container to transport the unit in. When shipping the unit for repair work or to another location, repack it as illustrated on the carton box.

For detailed safety precautions, see the "IMPORTANT SAFEGUARDS" leaflet.

To change the AM tuning interval

The AM tuning interval is preset at the factory to 10 kHz to match the frequency allocation system of your country. If you use the receiver where the frequency allocation system is based on a 9 kHz interval, change the interval as follows.

1 Depress the MAIN POWER switch to turn on the unit.

2 Press the SYSTEM POWER switch to turn off the unit.

3 While pressing the " + " STATION SCAN key, press the SYSTEM POWER switch to turn the unit on.

The AM tuning interval has been set to 9 kHz. To reset the interval to 10 kHz, follow the same procedure.

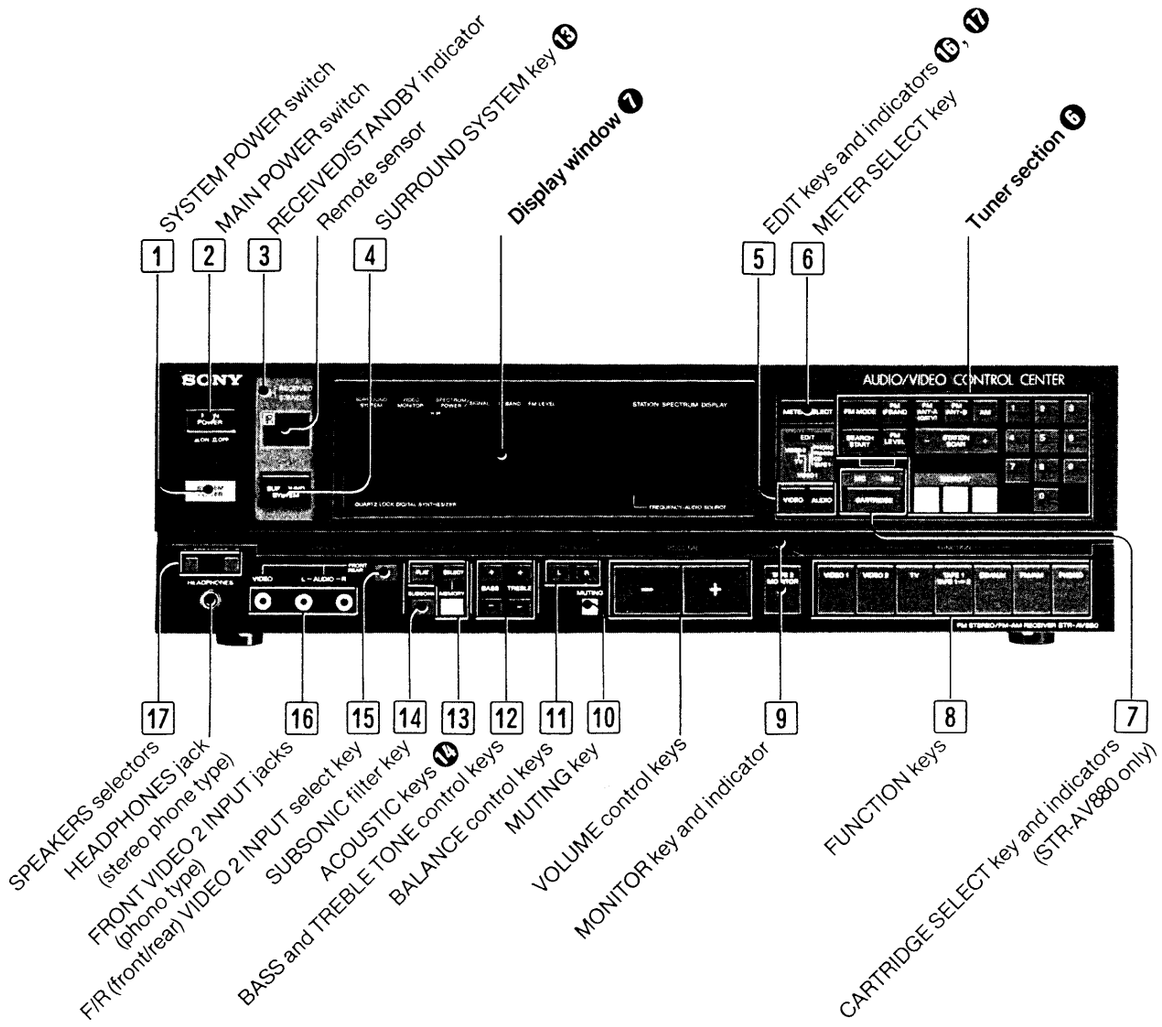
Note

When the interval is changed, all preset and located stations and acoustic settings will be erased. After changing the interval, memorize the stations and acoustic settings again.

LOCATION AND FUNCTION OF CONTROLS

For further details, refer to the page numbers next to each item.

Amplifier section



1 SYSTEM POWER switch
First turn the MAIN POWER switch on and then press this switch to turn the receiver and connected components on and off.
You can operate the switch from a distance with the RM-U880 Remote Commander.

2 MAIN POWER switch
Depress to turn the mains power on.

3 RECEIVED/STANDBY indicator
Lights when the mains power is turned on and blinks when a key on the Remote Commander is pressed.

4 SURROUND SYSTEM key
When listening to a stereo source, press to give your living room the acoustical atmosphere of a movie theater or a concert hall. Press it again to disengage the surround sound system.

[5] EDIT keys and indicators

AUDIO: For recording an audio program source on a video tape or adding that source to a video tape during video tape editing

VIDEO: For recording TV programs from the connected TV tuner on a video tape or editing a video tape from VCR 2 to VCR 1

[6] METER SELECT key

Press to select the power output spectrum display or signal strength meter display, and the ATT (volume attenuator) or SIGNAL (signal strength) indicator display. In TUNER mode, each time the key is pressed, the spectrum display will change from normal power output display to 1/10 scale power output display to SIGNAL strength meter display, successively. The ATT indicator will change to SIGNAL indicator when the SIGNAL strength meter display is selected.
In function modes other than TUNER, normal or 1/10 scale power output spectrum display can be selected.

[7] CARTRIDGE select key and indicators (STR-AV880 only)

This key functions when the PHONO FUNCTION key is pressed.
For moving-coil type cartridges, press this key so that the MC indicator lights. For moving-magnet type cartridges, press this key again so that the MM indicator lights.

[8] FUNCTION keys

PHONO: For record programs

FM/AM: For broadcasting programs

CD/AUX: For compact disc or auxiliary programs

TAPE 1 (TAPE 1 → 2): For taped programs of tape deck 1 (connected to TAPE 1 inputs)

TV: For TV programs from the TV tuner (connected to TV inputs)

VIDEO 2: For video programs of VCR 2 (connected to the front or rear video 2 inputs)

VIDEO 1: For video programs of VCR 1 (connected to VIDEO 1 inputs)

[9] MONITOR key and indicator

To listen to taped programs of tape deck 2 (connected to TAPE 2 inputs), press this key to turn on the MONITOR indicator. To listen to program sources other than tape deck 2, press the key again to turn the indicator off.

[10] MUTING key

Press to attenuate the sound level by ∞ dB. Press again to restore the same sound level as before.

[11] BALANCE control keys

Govern the amount of sound coming from each paired speaker to get optimum stereo effect. Press R key to decrease the left channel volume, and L key to decrease the right channel volume.

[12] BASS and TREBLE TONE control keys

Control the prominence of bass and treble response.

[13] ACOUSTIC keys

FLAT: Press to disengage the acoustic setting for a flat frequency response.

SELECT: Press to select the acoustic memory number to memorize an acoustic setting or to recall the memorized setting.

MEMORY: Press to start memorizing an acoustic setting.

[14] SUBSONIC filter key

Press to reduce unwanted subsonic noise components created by warped records, etc. The filter will cut off any input signals below 15 Hz at a 6 dB-per-octave rate. Press it again to disengage the filter.

[15] F/R (front/rear) VIDEO 2 INPUT select key

Press to select the front or rear video 2 inputs after pressing the VIDEO 2 FUNCTION key. The selected video 2 inputs are indicated by the video 2 input indicator, "FRONT" or "REAR", in the display window.

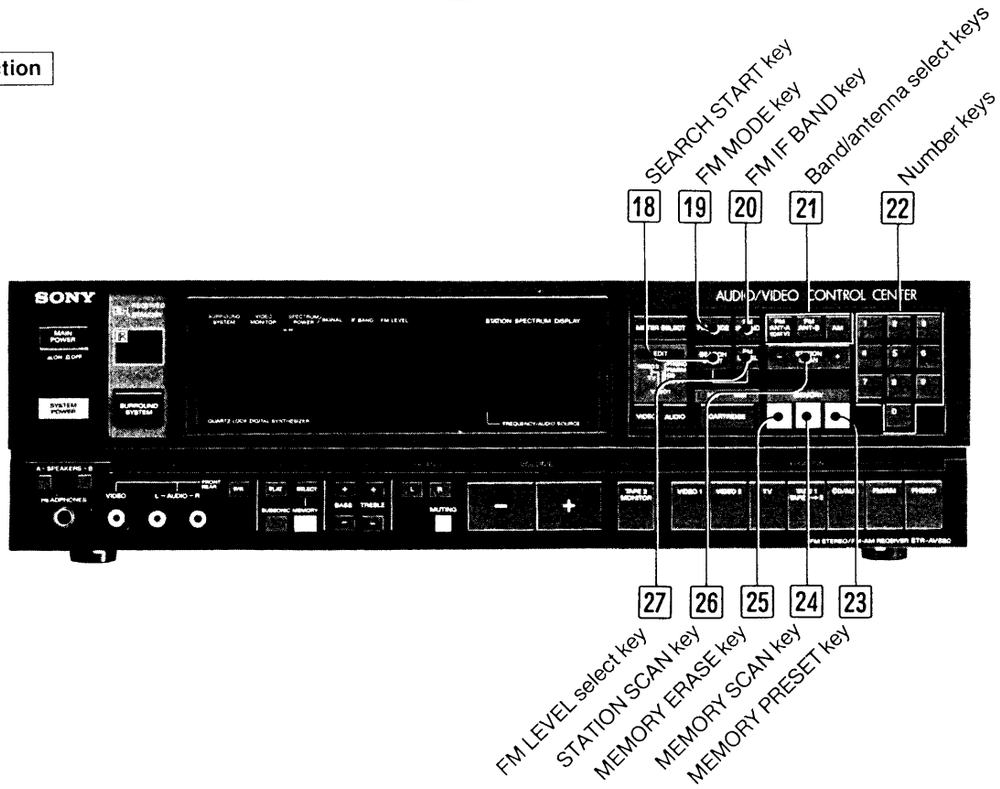
[16] FRONT VIDEO 2 INPUT jacks

Connect to the video and audio outputs of a VCR for playback, TV tuner, etc.

[17] SPEAKERS selectors

To drive speaker system A: depress A button.
To drive speaker system B: depress B button.
To drive both speaker systems: depress A and B buttons.
For headphone listening only: Keep both buttons released.

Tuner section



18 SEARCH START key
Press to start searching receivable stations.

19 FM MODE key
When an FM station is tuned in, the receiver determines the signal strength of the station and is automatically set to the appropriate FM mode: STEREO for a strong station or HI-BLEND for a slightly weak station.
Press this key when you want to change the FM mode manually so that the desired FM mode indicator is displayed.
HI-BLEND: When receiving a slightly weak station. Stereo effects at higher frequencies will be slightly reduced but noise will be reduced.
MONO: When receiving a very weak station. There is not stereo effect but the reception will be more stable and noise will be reduced.

20 FM IF BAND key
When an FM station is first tuned in (except by preset tuning), the receiver determines if there is likely to be interference from an adjacent station. If there is not, the IF band is automatically changed from normal (⌒) to wide (⌒).
Press this key to change the IF band manually. The IF band selected will be indicated in the display window.

21 Band/antenna select keys
FM ANT-A (CATV): For receiving FM broadcast using the FM antenna connected to the CATV ANT-A connector or cable TV programs when the CATV cable is connected
FM ANT-B: For receiving FM broadcast using the FM antenna connected to the FM ANT-B connector
AM: For receiving AM broadcast

22 Number keys
For direct access tuning: After pressing the band/antenna select key, press to input the frequency of the desired station.
For preset tuning: After pressing the MEMORY PRESET key, press to memorize the station being received. Also press to call up a preset station.

23 MEMORY PRESET key
Press to memorize the frequency of a station.

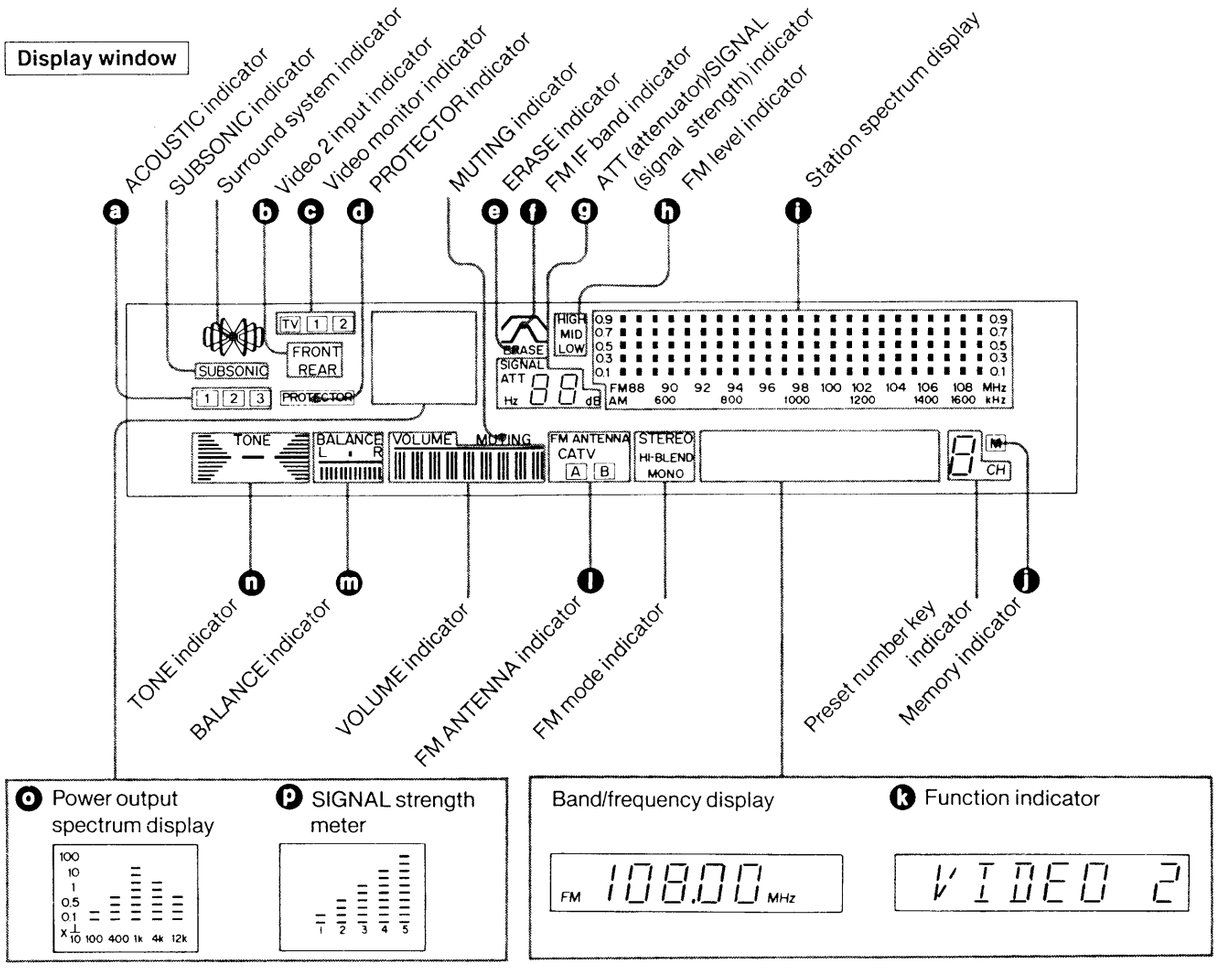
24 MEMORY SCAN key
Press to scan automatically the stations memorized on the number keys.

25 MEMORY ERASE key
Press to erase the memory of the station located by station searching.

26 STATION SCAN key
Press to scan the receivable stations located by station searching.

27 FM LEVEL select key
Press to select the level of FM stations to be tuned in so that the desired FM level indicator is displayed.
LOW: To tune in both strong and weak stations
MID: To tune in strong and mid-level stations
HIGH: To tune in strong stations only

Display window



a ACOUSTIC indicator
Shows the number of the acoustic setting memory, [1], [2] or [3].

b Video 2 input indicator
Indicates the selected front or rear video 2 inputs.

c Video monitor indicator
The indication [1] appears when the VIDEO 1 FUNCTION key is pressed; [2] appears when the VIDEO 2 key is pressed; [TV] appears when the TV key is pressed.

d PROTECTOR indicator
Appears when the protection circuit against a short-circuit is activated.

e ERASE indicator
Appears when the MEMORY ERASE key is pressed.

f FM IF band indicator
The selected FM IF band is graphically displayed: ⌒ (wide) or ∧ (normal).

g ATT (attenuator)/SIGNAL (signal strength) indicator
Normally the volume attenuation level is indicated in dB. When the METER SELECT key is pressed in TUNER mode, the signal strength is indicated in dB.

h FM level indicator
The FM station level selected by the FM LEVEL select key is displayed.

i Station spectrum display
The frequencies of the receivable stations located by station searching are shown by the squares. When a station is tuned in, the corresponding square flashes.

j Memory indicator
Appears when the MEMORY PRESET key is pressed.

k Function indicator
Indicates the selected program other than broadcasts.

l FM ANTENNA indicator
The CATV [A] appears when the FM ANT-A (CATV) key is pressed; [B] appears when the FM ANT-B key is pressed.

m BALANCE indicator
Indicates the relative strength of the volume at the left and right speakers.

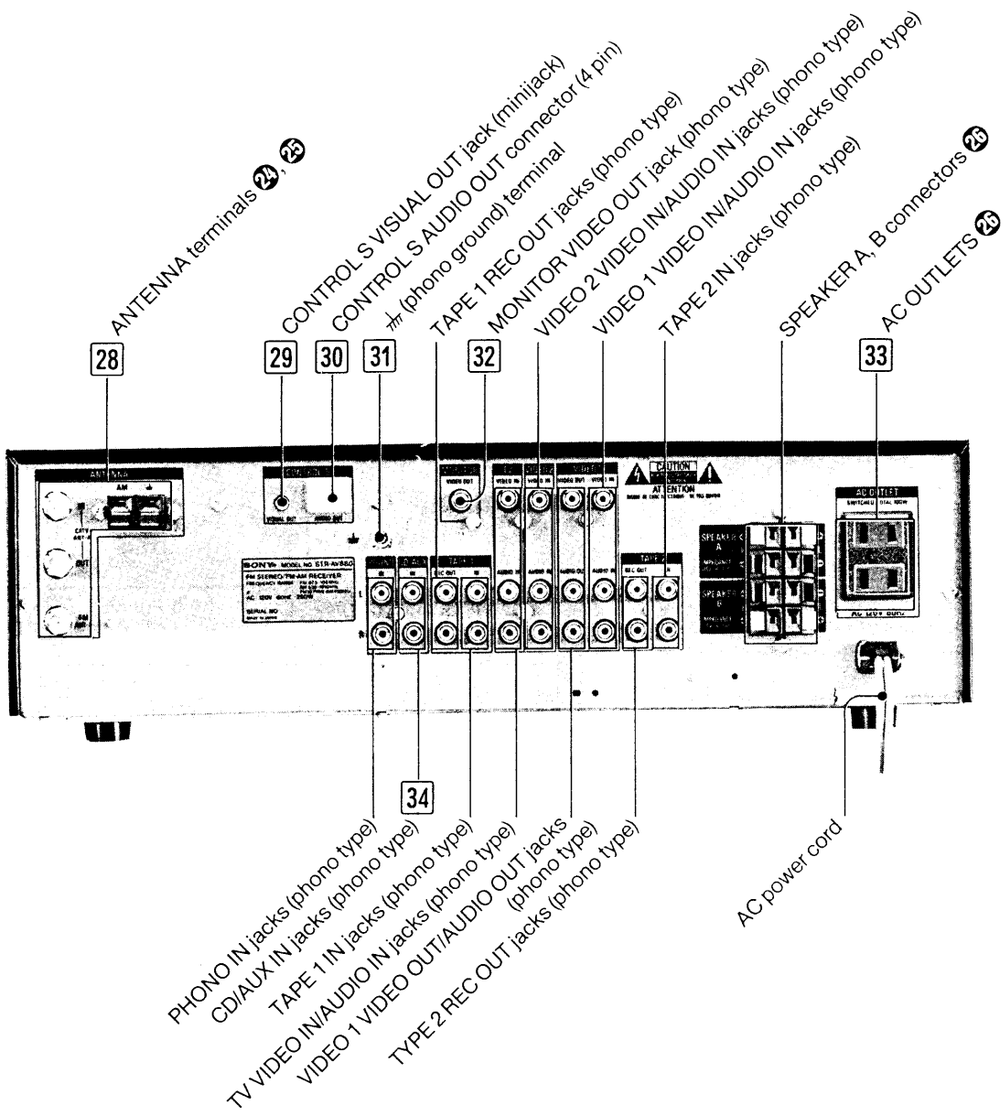
n TONE indicator
Graphically shows the tone control characteristics. A straight bar graph indicates a flat frequency response.

o Power output spectrum display
The power output (in wattage) is displayed in five frequency bands.
When the METER SELECT key is pressed, the "x 1/10" indication appears to indicate that the scale numbers are read by 1/10 (i.e. for 0.1, read 0.01.)

p SIGNAL strength meter
When the METER SELECT key is pressed in TUNER mode, the received signal strength is indicated in five steps.

Rear

For connections, see connection diagrams on pages 18 through 26.


ANTENNA terminals 24, 25
CONTROL S VISUAL OUT jack (minijack)
CONTROL S AUDIO OUT connector (4 pin)
⏚ (phono ground) terminal
TAPE 1 REC OUT jacks (phono type)
MONITOR VIDEO OUT jack (phono type)
VIDEO 2 VIDEO IN/AUDIO IN jacks (phono type)
VIDEO 1 VIDEO IN/AUDIO IN jacks (phono type)
TAPE 2 IN jacks (phono type)
SPEAKER A, B connectors 26
AC OUTLETS 26
28
29
30
31
32
33
34
PHONO IN jacks (phono type)
CD/AUX IN jacks (phono type)
TAPE 1 IN jacks (phono type)
TV VIDEO IN/AUDIO IN jacks (phono type)
VIDEO 1 VIDEO OUT/AUDIO OUT jacks (phono type)
TYPE 2 REC OUT jacks (phono type)
AC power cord

28 ANTENNA terminals

AM and ⏚ (antenna ground): Connect an AM antenna.

CATV ANT-A IN (F-type): Connect an FM antenna or CATV cable.

CATV ANT-A OUT (F-type): This connector supplies the signals connected to the CATV ANT-A IN connector to a VCR, TV tuner or another FM tuner.

FM ANT-B (F-type): Connect an FM antenna.

29 CONTROL S VISUAL OUT jack

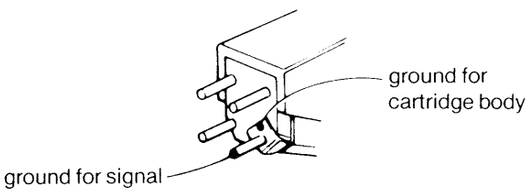
Used to extend the utility of this unit by providing for the connection of optional video equipment which will be available in the future.

30 CONTROL S AUDIO OUT connector

Connect to the CONTROL S IN or R REMOTE IN connector of other Sony equipment using a 4-pin flat remote control cord in order to control the audio system using the RM-U880 Remote Commander.

31 ⏚ **(phono ground) terminal**
Connect the ground wire of a turntable system.

Note
In some particular MM cartridges, the ground for signal is connected to the ground for cartridge body. If this type of cartridge should be installed to a metal cartridge shell, current will flow through the tonearm ground in a loop and will cause hum noise. In this case, disconnect the turntable ground wire from the ⏚ terminal, or disconnect the ground for cartridge body from the ground for signal.



32 **MONITOR VIDEO OUT jack**
Connect to the video input of a component TV. The video signal selected by the TV, VIDEO 1 or VIDEO 2 FUNCTION key and the F/R key is output here.

33 **AC OUTLETS (SWITCHED)**
These are used to power other audio components whose power consumption is less than the wattage indicated on the outlets.

34 **CD/AUX (compact disc/auxiliary) IN jacks**
Connect to the output jacks of a compact disc player or a tape deck for playback.

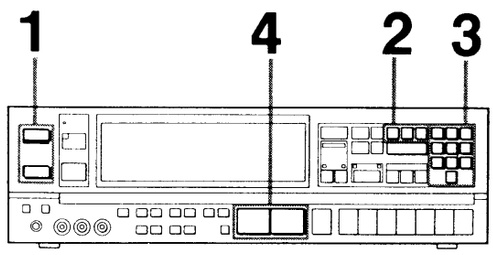
TO RECEIVE FM/AM BROADCAST

Make sure that you have finished all the connections on pages 18 through 26.

Before tuning, select the speaker system with the SPEAKERS selectors.

DIRECT ACCESS TUNING

When you know the frequency of the station to be received, input it with the number keys.

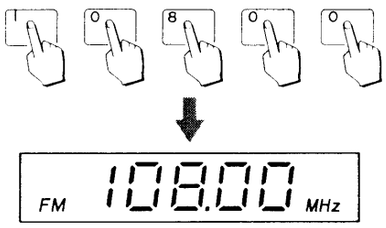


1 Depress the MAIN POWER switch and press the SYSTEM POWER switch.

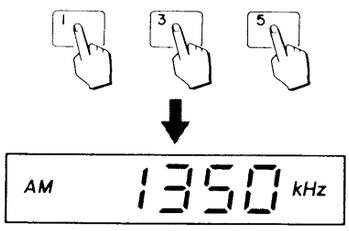
2 Press the FM ANT-A (CATV), FM ANT-B or AM key. The "0" indication will blink.

3 Input the frequency using the number keys.

Examples
FM 108.00 MHz



AM 1350 kHz



4 Adjust the VOLUME control keys to your preference.

Notes on AM direct access tuning

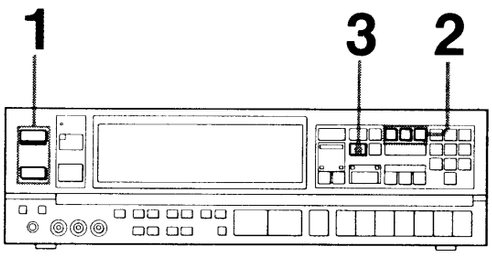
- As the AM tuning interval is preset at the factory to 10 kHz, you need not input the last digit "0" of the frequency when the first two or three digits are input.
- If you change the 10 kHz AM tuning interval to 9 kHz, input the frequency to the last digit. See "How to change the AM tuning interval" on page 3.

If you input a wrong frequency

- Press the appropriate band/antenna select key again and input the correct frequency.
- If you input a frequency outside the receiver's frequency range (FM 87.5 to 108 MHz; AM 530 to 1,610 kHz), the figures will flash in the display window. In this case, press the appropriate band/antenna select key and input the correct frequency.

STATION SEARCHING

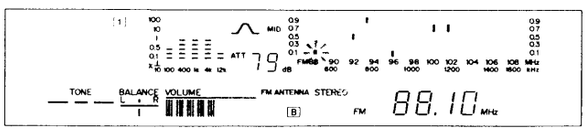
Before station scan tuning, find out receivable frequencies of stations by station searching.



1 Depress the MAIN POWER switch and press the SYSTEM POWER switch.

2 Press the FM ANT-A (CATV), FM ANT-B or AM key. The "0" indication will blink.

3 Press the SEARCH START key.
The receiver searches receivable stations in the band from the lowest frequency to the highest frequency and the stations located are indicated by the squares on the station spectrum display.
Searching will stop automatically at the lowest frequency station located.



Repeat these steps for each band (FM and AM).
Once the stations are located, they are retained in memory.

When only a few FM stations or none located, change the level of the stations to MID or LOW with the FM LEVEL key. The squares indicating the stations with the selected level will appear on the station spectrum display.

STATION SCAN TUNING

Once all receivable stations in your area are located by station searching, you can select the desired station quickly while scanning the stations located.

1 Press the FM ANT-A (CATV), FM ANT-B or AM key. The "0" indication will blink.

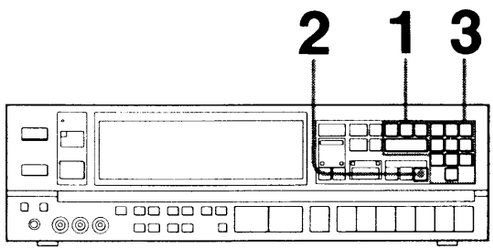
2 Input any frequency within the band using the number keys.

3 Press the STATION SCAN key.
Press the " + " side for higher frequencies or the "–" side for lower frequencies.
Each time you press " + " or "–", a higher or lower frequency station will be tuned in.
If you keep the key depressed, the receivable stations will consecutively be tuned in for several seconds. Release the key when the desired station is received.

To erase the memory of a located station
Tune in the station and press the MEMORY ERASE key. The memory of the station will be erased and the station will be skipped over when the STATION SCAN key is pressed later.

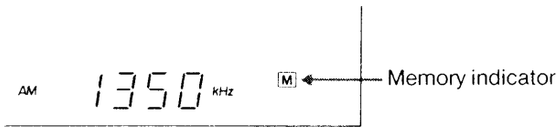
MEMORY PRESETTING

Once the frequencies of the stations you want to tune in are memorized, all you have to do is to press a number key.
A total of 10 stations can be memorized, one to each number key, in any desired sequence.

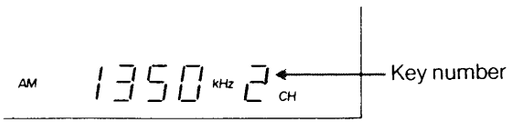


1 Tune in the desired station following the procedure described in "DIRECT ACCESS TUNING" or "STATION SCAN TUNING".
For an FM station, make sure that the IF band and FM mode settings are appropriate. If necessary, change the settings manually by pressing the FM IF BAND key and FM MODE key. These settings will be also memorized.

2 Press the MEMORY PRESET key. The [M] (memory) indicator will appear for a few seconds.



3 While the indicator is displayed, press the desired number key. The number of the pressed key will appear.
The frequency is now memorized.



Repeat these steps for each number key.

Notes
- If the memory indicator has gone off, the station cannot be memorized. Press the MEMORY PRESET key again and proceed to step 3.
- If you preset another station to a key on which you have already preset a station, the first station will be erased. You cannot erase a station without presetting another station.

PRESET TUNING

You can receive a station only by pressing one of the number keys to which the station has been memorized.

Memory of the last station received
This receiver includes a memory circuit to remember the station being received just before the power was turned off. The station will be automatically tuned in when the power is turned on again.

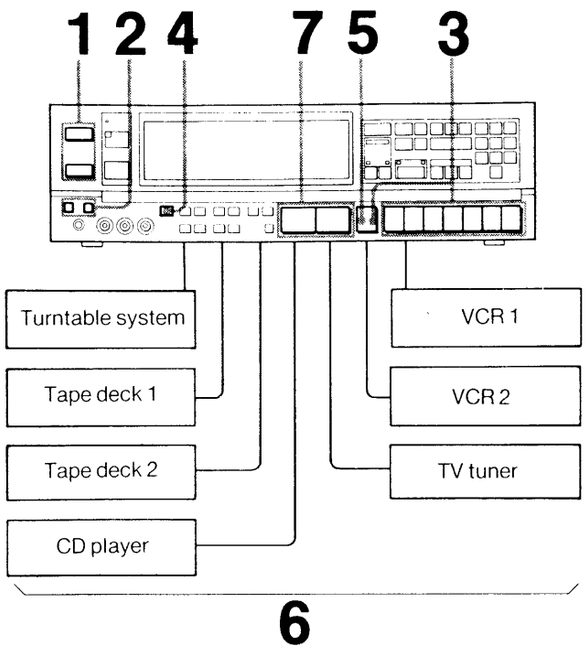
MEMORY SCANNING

This function allows you to quickly hear what kind of programs are being broadcast by the memorized stations. When you press the MEMORY SCAN key, the memorized stations are automatically tuned in for several seconds each.

To stop scanning, press the appropriate number key.

TO LISTEN TO PROGRAM SOURCES OTHER THAN BROADCASTS

For details on connections, see the connection diagrams on pages 19 through 23.



1 Turn on the receiver and connected equipment.

2 Select the speaker system with the SPEAKERS selectors.

3 Select the program source by pressing the desired FUNCTION key or MONITOR key.

4 When the VIDEO 2 FUNCTION key is pressed, select the front or rear video 2 inputs with the F/R key.

5 If the MONITOR indicator lights when listening to a program source other than tape deck 2, press this key to disengage it.

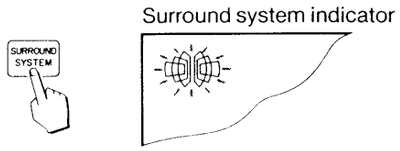
6 Start the program.

7 Adjust the VOLUME control keys to your preference.

Cartridge type selection (for the STR-AV880 only)
Press the CARTRIDGE select key so that the MC (moving-coil type cartridge) or MM (moving-magnet type cartridge) lights according to the cartridge being used for your turntable system.

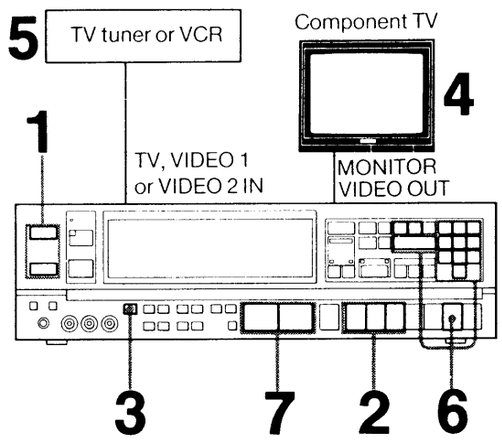
To enjoy surround sounds

The Surround Sound system uses a technique that creates an atmosphere peculiar to movie theaters and concert halls. You can bring the surround effect of movie theaters and concert halls to your listening room simply by pressing the SURROUND SYSTEM key. While the Surround Sound system is engaged, the surround system indicator lights in the display window. To disengage the system, press the SURROUND SYSTEM key again.



RECEIVING FM SIMULCAST TV PROGRAMS

By connecting a component TV and a TV tuner or VCR, you can receive FM simulcast TV programs (stereo TV sound transmitted from an FM radio station) while viewing the TV program.



1 Depress the MAIN POWER switch and press the SYSTEM POWER switch.

2 Press the TV, VIDEO 1 or VIDEO 2 key.

3 When the VIDEO 2 key is pressed, select the front or rear video 2 inputs with the F/R key.

4 Turn on the component TV.

5 Select the desired TV program with the TV tuner or VCR.

6 Press the FM/AM key of the receiver and tune in the FM simulcast TV program.

7 Adjust the VOLUME control keys to your preference.

RECEIVING FM SIMULCAST CABLE TV PROGRAMS

By connecting the CATV cable to this receiver, you can receive FM simulcast cable TV programs while viewing the picture, without using a signal splitter.
For connection, see "CATV cable connection" on page 25.

1 Depress the MAIN POWER switch and press the SYSTEM POWER switch.

2 Turn on the component TV.

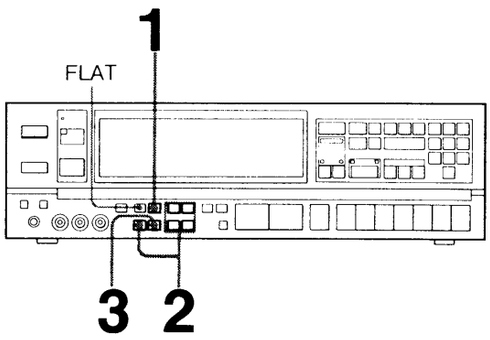
3 Press the TV, VIDEO 1 or VIDEO 2 and F/R key, and select the desired CATV program with the TV tuner or VCR.

4 Press the FM ANT-A (CATV) key and tune in the FM simulcast cable TV program on the receiver.

5 Adjust the VOLUME control keys to your preference.

TO SET THE ACOUSTIC SETTINGS

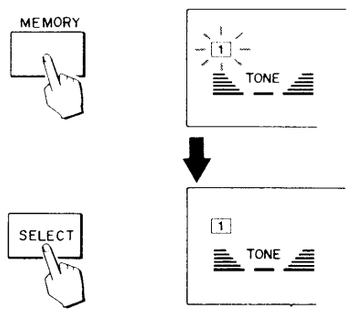
The receiver can store and recall three different tone control settings to easily set the tone controls to match different types of music.



1 Press the SELECT key to select the acoustic memory number [1], [2] or [3]. With each press of the key, the number displayed in the window changes.

2 Adjust the tonal quality with the TONE control keys and SUBSONIC key to your preference. The acoustic memory number will disappear.

3 Press the MEMORY key. While the acoustic memory number flashes, press the SELECT key.
The acoustic setting is now memorized.



Repeat steps 1 to 3 for the other acoustic memory numbers.

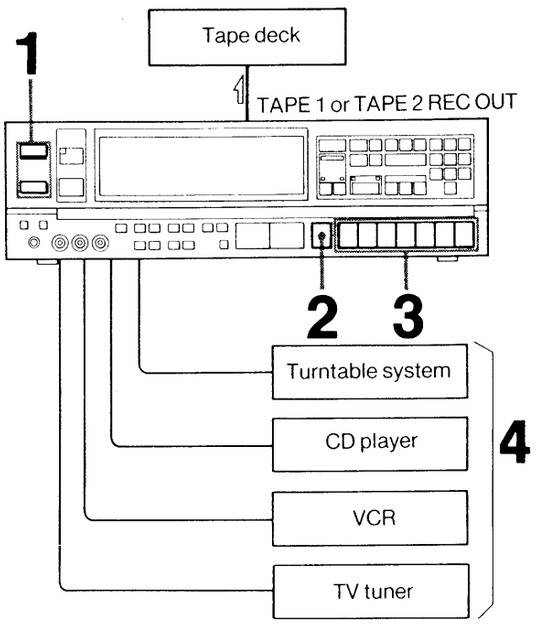
The receiver retains the contents of the memory even when the power is off.
When a new acoustic setting is memorized, the previous setting will be erased.

To check the acoustic setting
Press the FLAT key. A flat frequency response results. Then press the SELECT key to recall the original setting. Now compare the effect of the setting with the flat frequency response.

To change temporarily a part of the acoustic setting
Simply change the part of the acoustic setting you want. You can recall the original setting later by pressing the SELECT key.

TO RECORD ON AN AUDIO TAPE

RECORDING



1 Turn on the receiver, tape deck and desired program source.

2 If the MONITOR indicator lights, press this key to disengage it.

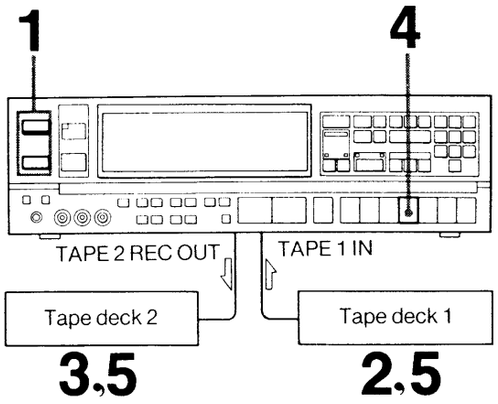
3 Select the desired program source with the FUNCTION key.
For an FM or AM program, tune in the desired station.

4 Start the program source and set the tape deck in recording mode.

The volume and tone settings on the receiver do not have any effect on the recording.

AUDIO TAPE DUBBING

To dub a tape, connect a tape deck for playback to the TAPE 1 IN jacks and a tape deck for recording to the TAPE 2 REC OUT jacks.



1 Turn on the receiver and connected tape decks.

2 Insert a recorded tape into tape deck 1.

3 Insert a blank tape into tape deck 2 and adjust the recording level.

4 Press the TAPE 1 (TAPE 1 → 2) key.

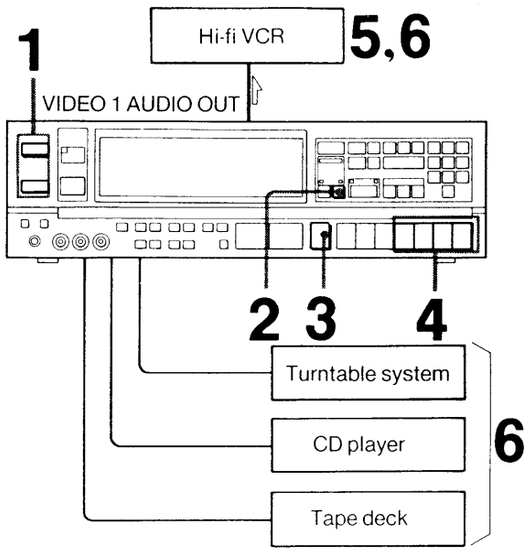
5 Start playback on tape deck 1 and recording on tape deck 2. Dubbing will begin.

Monitoring of a 3-head tape deck
If you have connected a tape deck having separate record and playback heads to the TAPE 2 TAPE IN jacks, you can monitor the recording results while recording or dubbing. Press the MONITOR key. The MONITOR indicator will light and the recorded program will be heard.
Press the MONITOR key again to listen to the source sound.

HI-FI VIDEO RECORDING

For operation of the hi-fi VCR, refer to its instruction manual.

RECORDING AUDIO PROGRAMS



1 Turn on the receiver and equipment to be used.

2 Press the EDIT AUDIO key.

3 If the MONITOR indicator lights, press this key to disengage it.

4 Select the desired program source with the FUNCTION key.
For an FM or AM program, tune in the desired station.

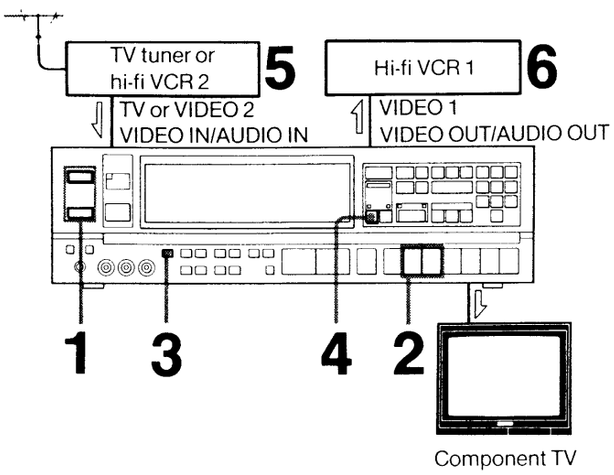
5 Insert a video cassette into the hi-fi VCR and adjust the recording level.
Set the filter switch on the VCR to ON, if it is provided.

6 Start the program source and set the VCR to recording mode.

The volume and tone settings on the receiver do not have any effect on the recording.

Note
You cannot record on a VCR connected to the video 2 input jacks.

RECORDING TV PROGRAMS



1 Turn on the receiver and equipment to be used.

2 Press the TV or VIDEO 2 key.

3 When the VIDEO 2 key is pressed, select the front or rear video 2 inputs with the F/R key.

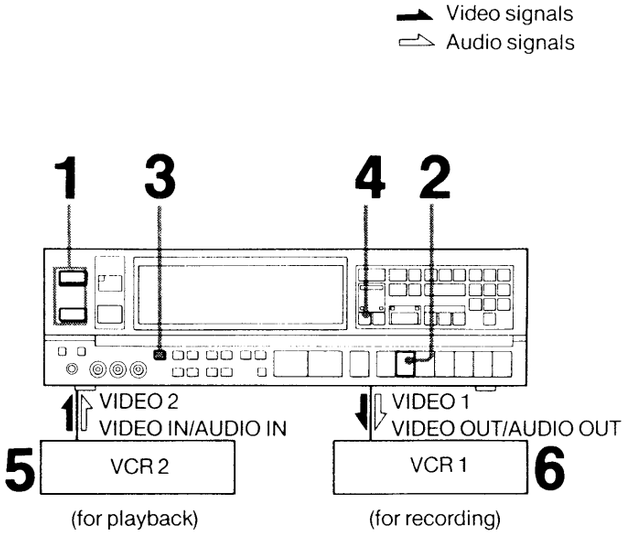
4 Press the EDIT VIDEO key.

5 Select the desired channel on the TV tuner or VCR 2.

6 Set the VCR 1 to recording mode.
The TV program will be recorded on the video tape.

VIDEO TAPE EDITING

To edit a video tape, connect a VCR for playback to the VIDEO 2 VIDEO IN/AUDIO IN jacks and a VCR for recording to the VIDEO 1 VIDEO OUT/AUDIO OUT jacks.



1 Turn on the receiver and equipment to be used.

2 Press the VIDEO 2 key.

3 Select the front or rear video 2 inputs with the F/R key.

4 Press the EDIT VIDEO key.

5 Set the VCR 2 to playback mode.

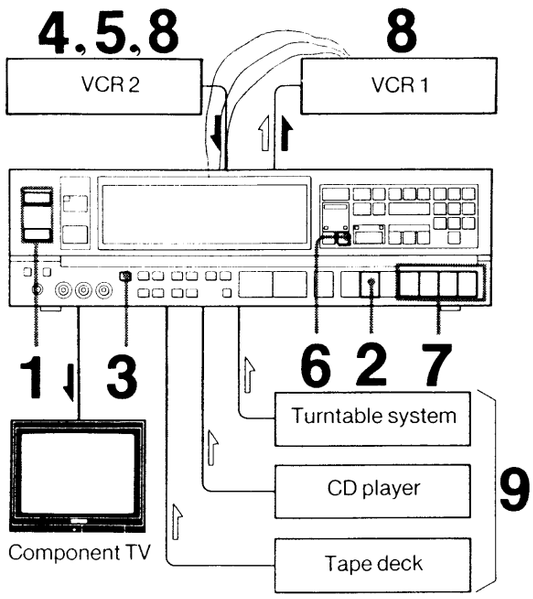
6 Set the VCR 1 to recording mode. Editing will begin.

You can listen to an audio program source during video tape editing by pressing any FUNCTION key.

Note
You cannot edit a video tape from VCR 1 to VCR 2.

ADDING NEW SOUND ON A VIDEO TAPE DURING EDITING

During video tape editing, you can replace the sound previously recorded on a video tape with the desired sound from an audio source, thus making your own personalized video tape.



1 Turn on the receiver and connected equipment.

2 Press the VIDEO 2 key.

3 Select the front or rear video 2 inputs with the F/R key.

4 Insert a recorded video tape into the VCR 2 and set it to playback mode.

5 At the point where audio dubbing is to start, press the PAUSE button on the VCR 2.

6 Press the EDIT AUDIO key on the receiver.

7 Press the desired FUNCTION key.

8 Release the pause mode of the VCR 2 and set the VCR 1 to recording mode.

9 Start playing the selected program source.

CONNECTION DIAGRAMS

Connection notes

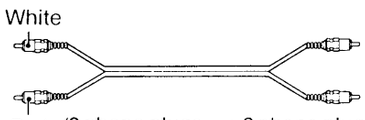
- The power cord should be connected last of all, first making sure that the MAIN POWER switch is turned off.
- When connecting program sources or tape recorders, note that the red jacks of the receiver are for right-channel audio connections, the white jacks for left-channel audio connections and the yellow jacks for video connections.
- The cable connectors should be fully inserted into the jacks. A loose connection may cause hum and noise.

Before connection, be sure to set the MAIN POWER switch to OFF (⏻).

Connecting cords

For connection, use the connecting cords listed below. The numbers in the connection diagrams are keyed to those in the list.

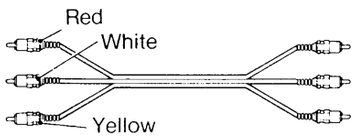
❶



(2 phono plugs ⟷ 2 phono plugs)

Supplied with audio equipment or optional Sony RK-74A connecting cord

❷



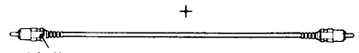
(3 phono plugs ⟷ 3 phono plugs)

Optional Sony VMC-1P3 or VMC-2P3 connecting cord

or

(2 phono plugs ⟷ 2 phono plugs)

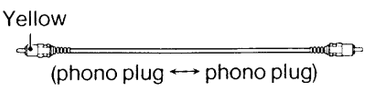
+



(phono plug ⟷ phono plug)

Optional Sony RK-74A + VMC-1S connecting cords

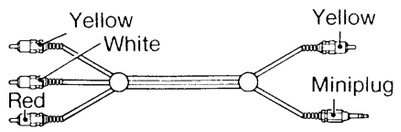
❸



(phono plug ⟷ phono plug)

Optional Sony VMC-1S connecting cord

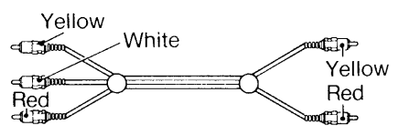
❹



(3 phono plugs ⟷ phono plug and miniplug)

Optional Sony VMC-1MP3 or VMC-2MP3 connecting cord

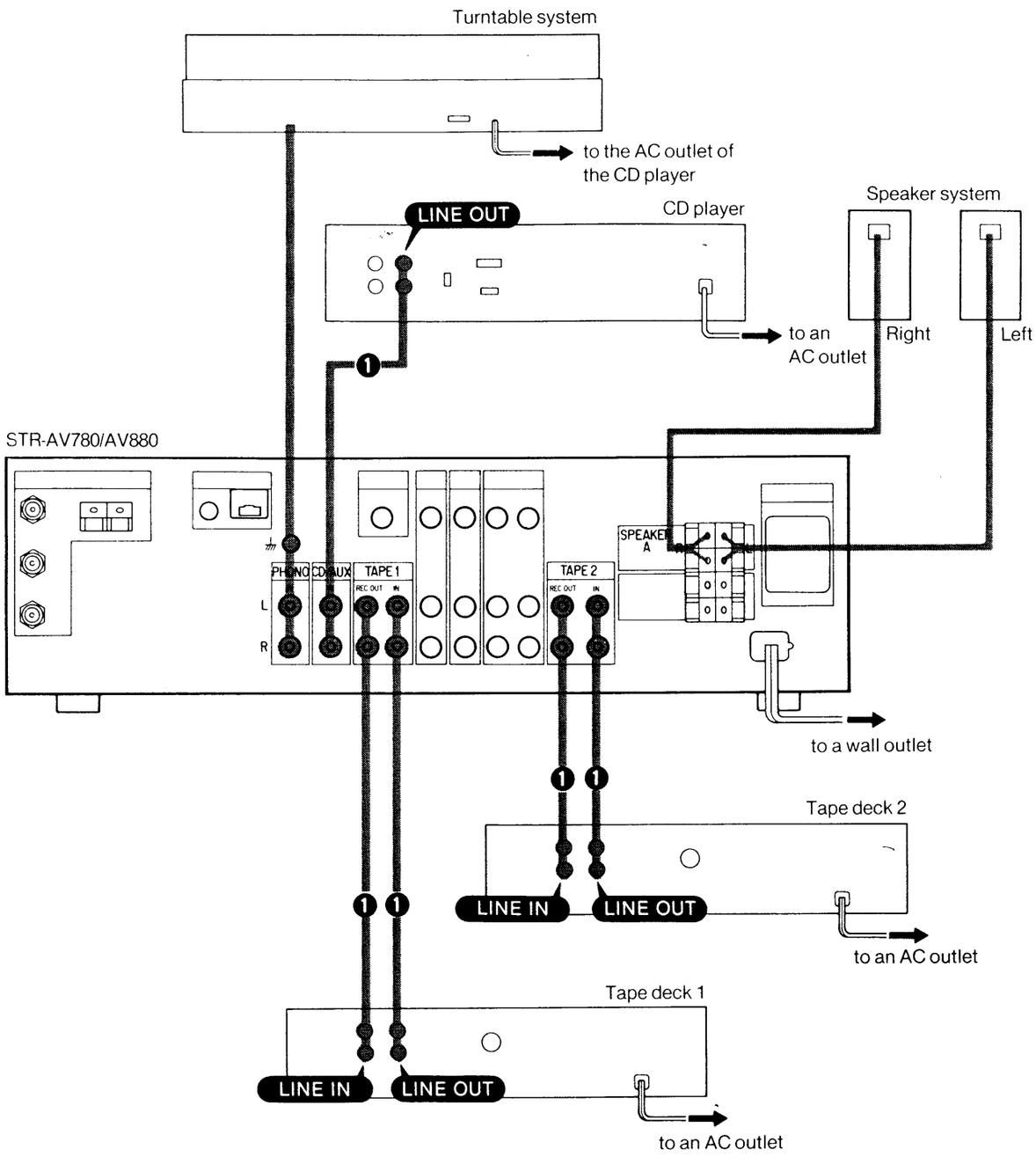
or



(3 phono plugs ⟷ 2 phono plugs)

Optional Sony VMC-608MS or VMC-609MS connecting cord

AUDIO SYSTEM CONNECTION

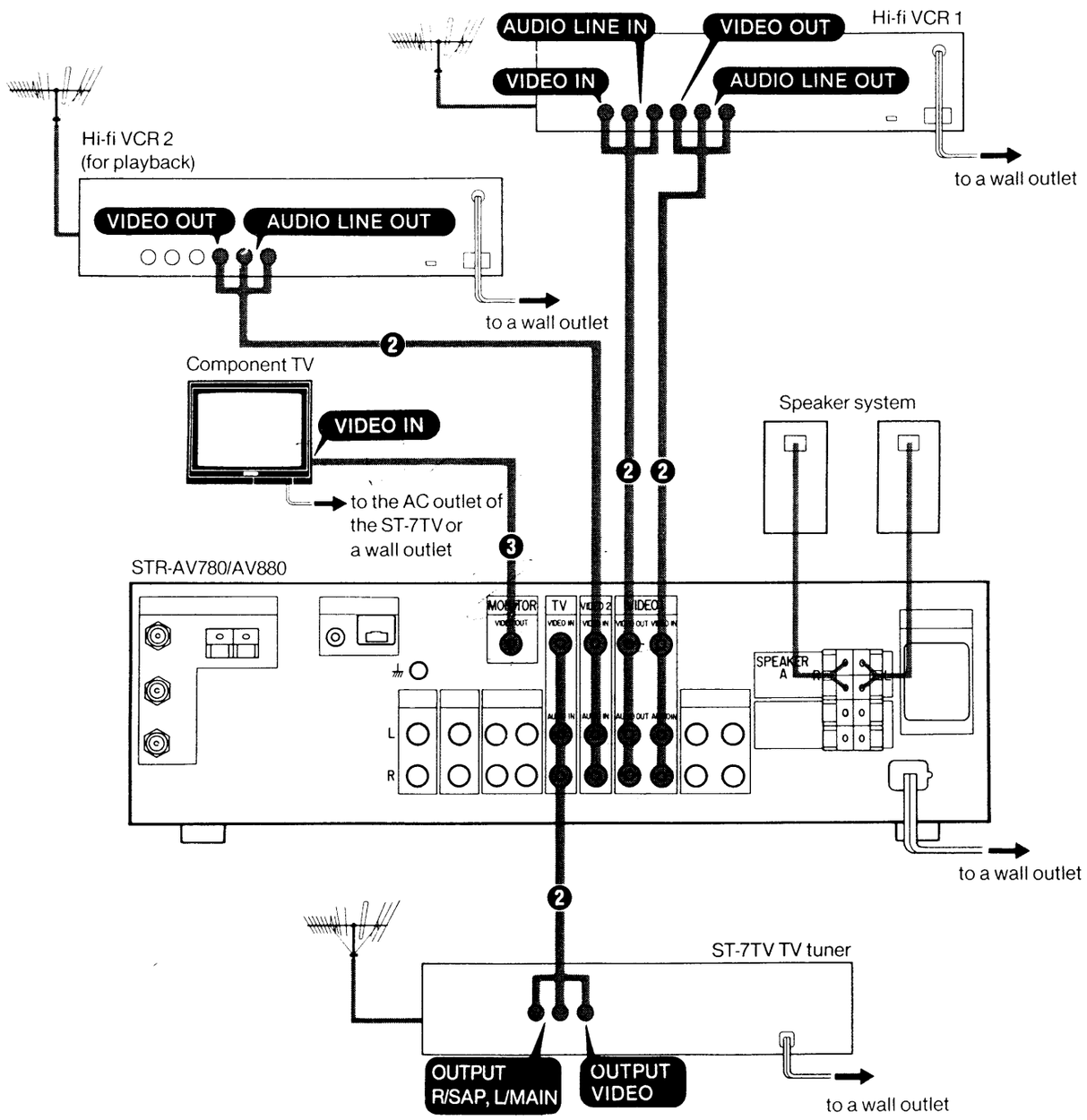


VIDEO SYSTEM CONNECTION

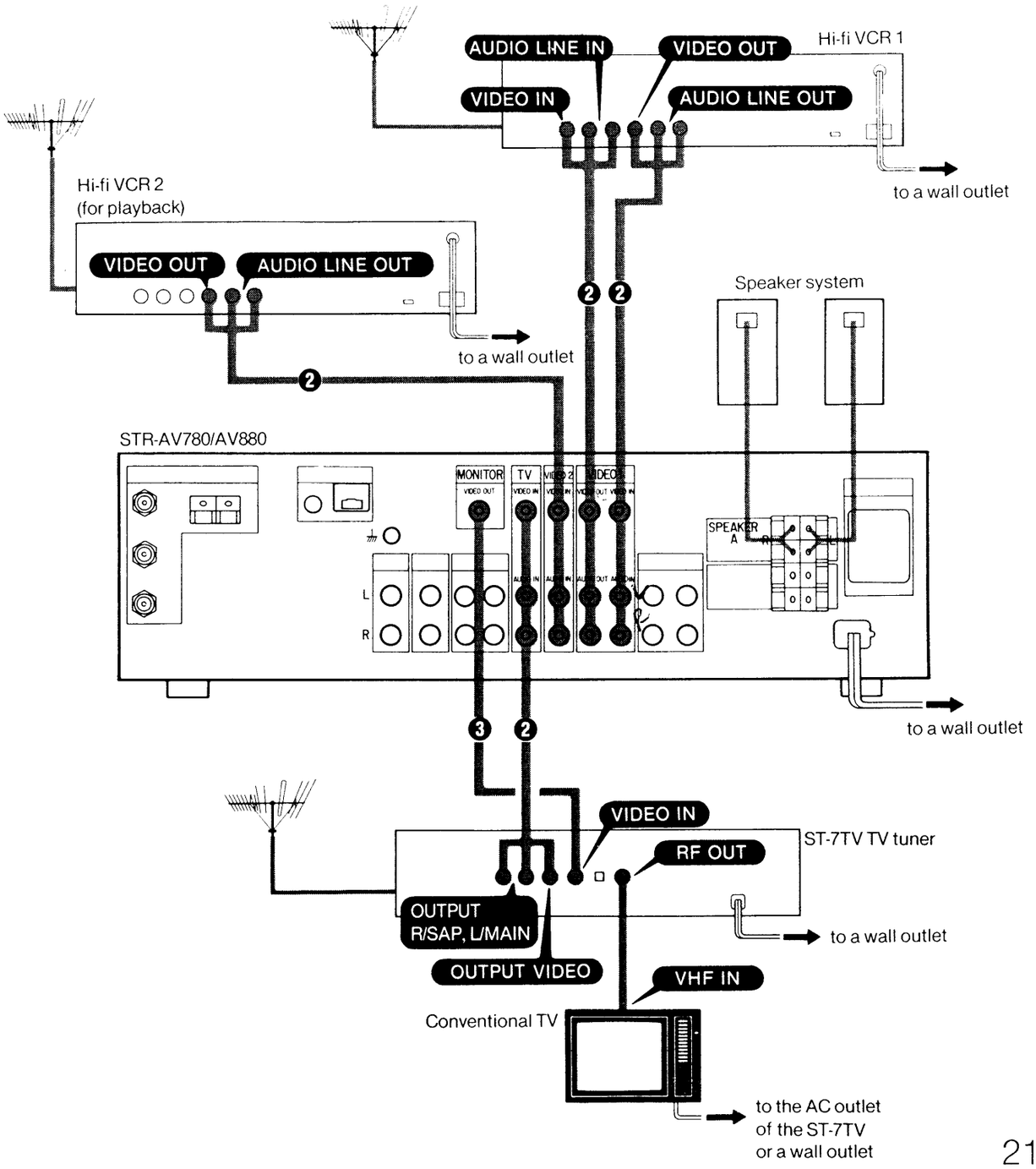
Before making connections, refer to the instruction manual of the VCR.

Hi-fi VCR + **Component TV** + **TV tuner**

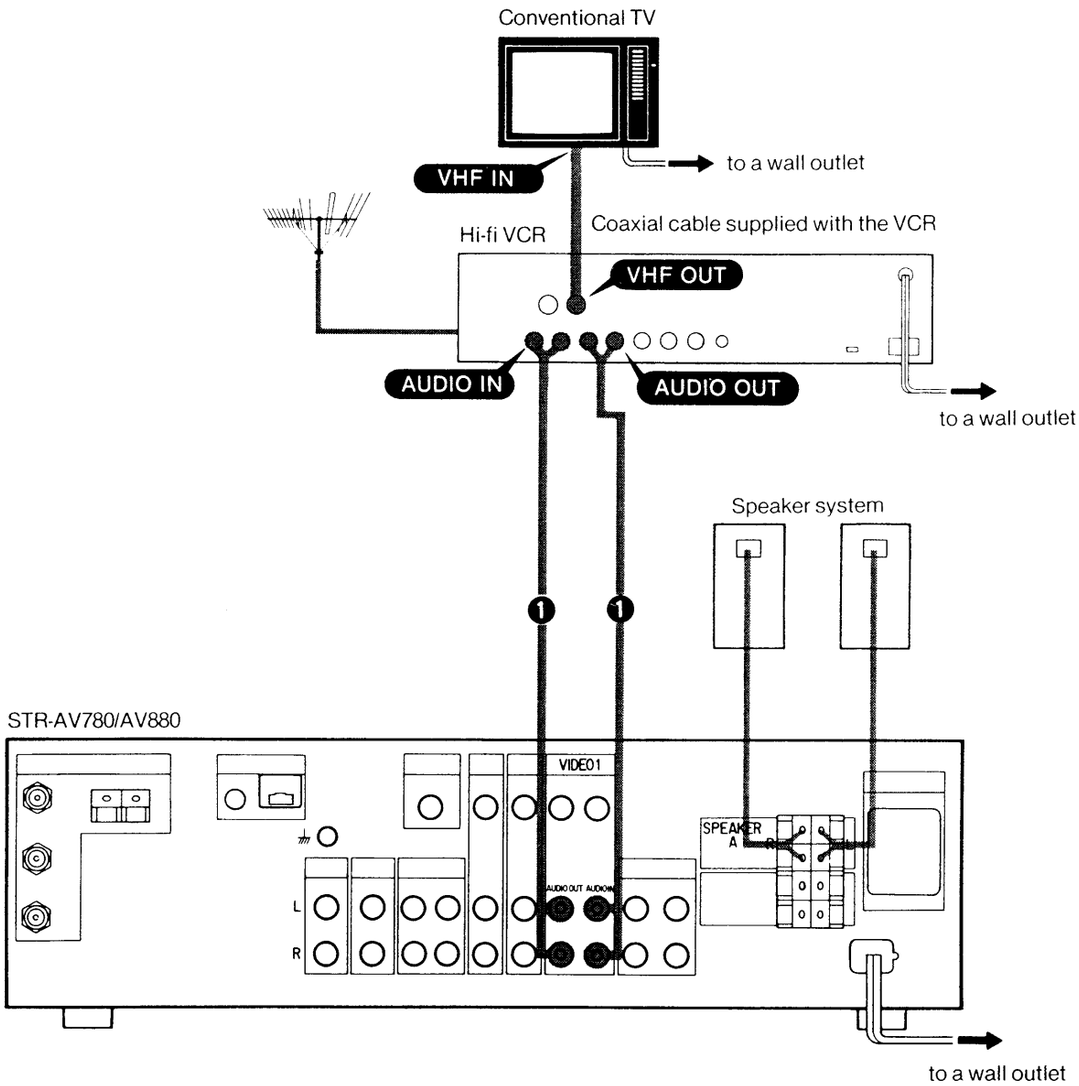
Connect a hi-fi VCR to the VIDEO 1 outputs/inputs for recording and playback and another hi-fi VCR to the VIDEO 2 inputs for playback only.



Hi-fi VCR + **Conventional TV** + **TV tuner**



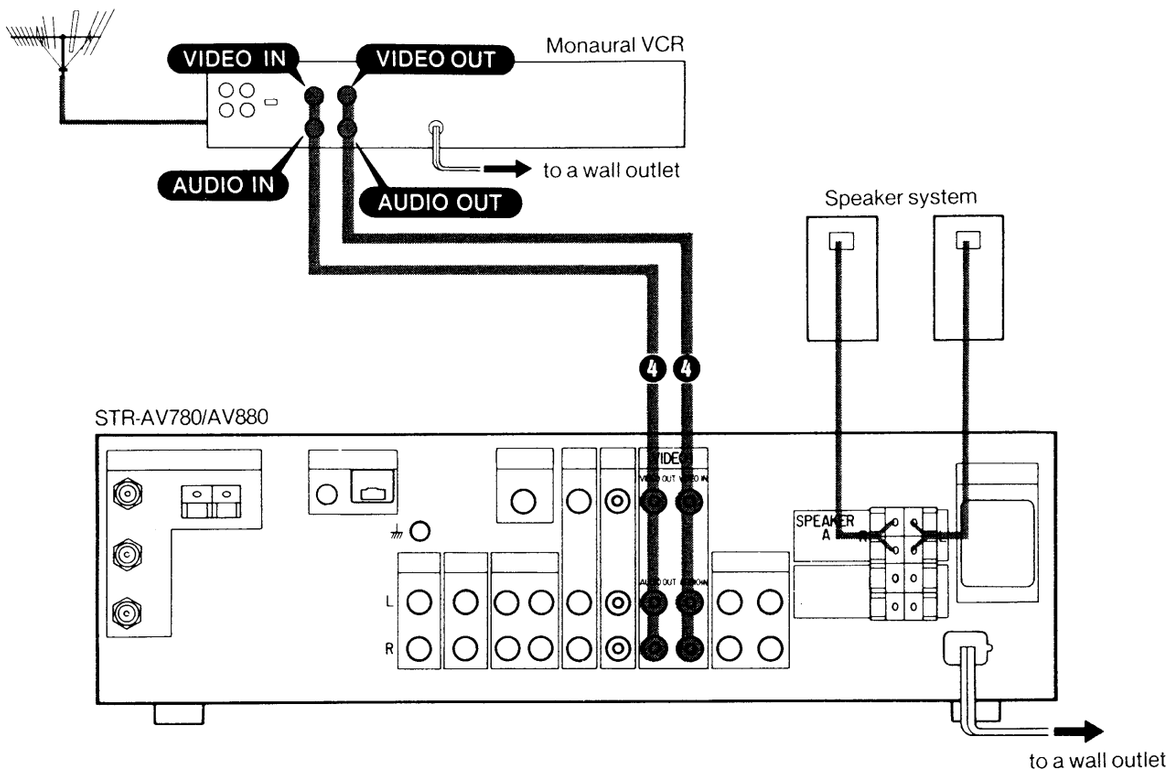
Hi-fi VCR + **Conventional TV**



MONAURAL VCR CONNECTION

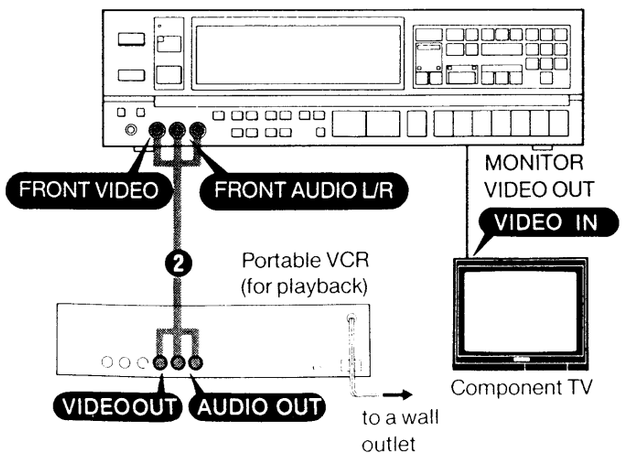
For the connection of the other equipment, refer to the diagrams indicated before.
Connect a component TV to the MONITOR VIDEO OUT jack of the receiver or a conventional TV to the VHF OUT connector of the VCR.

Note
If you connect a monaural VCR to the receiver and record an audio program source on a video tape or edit from VCR 2 to VCR 1, it may happen that stereo separation of the program source heard from the speakers will be worsened.



PORTABLE VCR CONNECTION

For the connection of other equipment, refer to the diagrams indicated before.

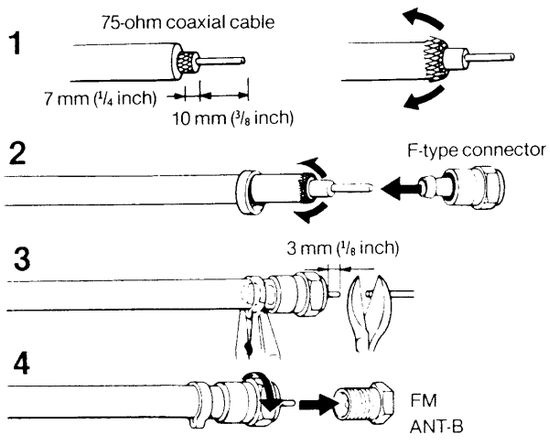


FM ANTENNA CONNECTION

To get the optimum sound of FM broadcasts, install a suitable outdoor FM antenna.
The supplied ribbon antenna may be useful until you install a more suitable antenna.

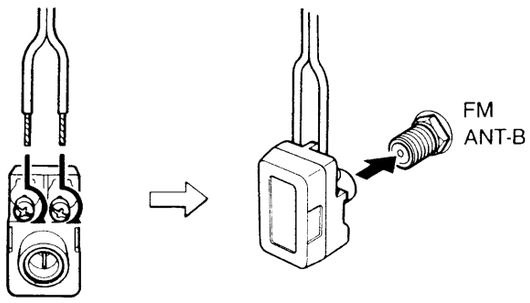
75-ohm coaxial cable connection

A 75-ohm coaxial cable is free from external interference, reduces noise pickup, and is the ideal transmission line for most FM installations. 3C-2V cable is recommended. Connect the 75-ohm coaxial cable to a commercially available F-type connector and connect it to the FM ANT-B connector.



Ribbon antenna supplied (or 300-ohm twinlead) connection

The supplied ribbon antenna or a standard 300-ohm twinlead is susceptible to the pickup of extraneous noise. Connect the ribbon antenna or twinlead to the supplied external antenna connector and connect it to the FM ANT-B connector. Fully extend the antenna and fasten the ends to a wall using thumbtacks or adhesive tape.



External antenna connector (supplied)

Note

If you have another FM tuner, connect an FM external antenna to the CATV ANT-A IN connector and connect the CATV ANT-A OUT connector to the FM antenna terminal of the other FM tuner.

Notes on the FM and TV antennas

— When the stereo receiver and video system are connected and both are in use

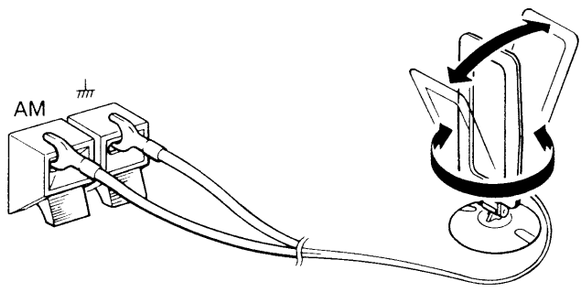
We recommend the use of outdoor antennas to obtain better quality picture and sound.

- Use the outdoor FM antenna for FM reception and the TV antenna for TV reception. Do not use one antenna for both.
- Use 75-ohm coaxial cables for both antennas.
- Locate the two antennas as distant as possible from each other.

If FM signals interfere with the TV picture and sound, press any FUNCTION key to change the tuner mode to any other mode.

AM ANTENNA CONNECTION

Supplied layout-free AM external antenna
To receive AM programs, always keep the layout-free AM antenna connected to the AM external antenna terminals. Adjust the position of the antenna to obtain optimum reception.



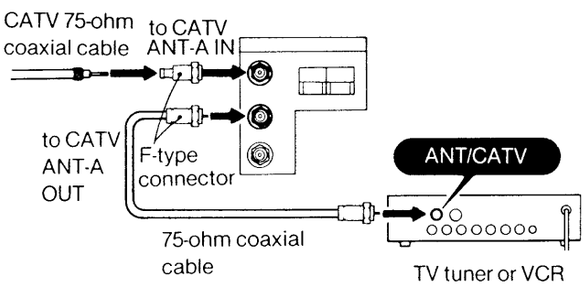
This antenna can be placed in various places, such as on a speaker or a desk, or hung on a wall.

ANTENNA GROUND CONNECTION

To prevent hum, connect the ground wire to the antenna ground terminal (⏚).

CATV CABLE CONNECTION

Connect the CATV 75-ohm coaxial cable to the CATV ANT-A IN connector and the CATV ANT-A OUT connector to the antenna/cable input of the TV tuner or VCR.
For connecting an F-type connector, see page 24.
For the other connections, see diagrams on pages 19 to 23.



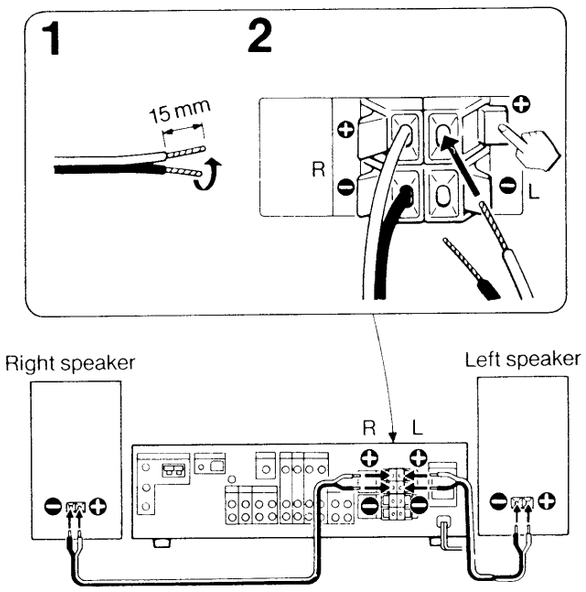
Note to CATV system installer in the U.S.A.
This reminder is provided to call the cable TV system installer's attention to Article 820-22 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

SPEAKER CONNECTION

Two speaker systems, A and B, can be selected individually or simultaneously by means of the front panel SPEAKERS selectors.
Note that no sound will be heard if only one of the speaker systems is connected and the SPEAKERS selector A and B are depressed.

Speaker impedance and power capability
This receiver is designed to work best with speakers having nominal impedance from 8 to 16 ohms, and rated at 80 watts (STR-AV780) or 110 watts (STR-AV880) minimum RMS per channel with an 8-ohm load from 20 - 20,000 Hz. Be sure not to use speakers, with impedance less than 8 ohms and to use adequate power handling capabilities.

Speaker cord connection



Generally speaker cords are coded with color or mark, indicating the ⊕ ⊖ polarities. Remember the coding and prevent faulty connections.

Right speaker: to R SPEAKER connectors
Left speaker: to L SPEAKER connectors
⊕ code: for ⊕ connection
⊖ code: for ⊖ connection

POWER SOURCE CONNECTION

Polarity of the AC power cord
A white mark is visible on one lead of the power cord and one plug is larger than the other. This will help you align the AC power cord polarity with the AC outlet polarity in order to operate the receiver and other components in the system "in phase".
The larger plug of the AC power cord of the receiver should be inserted into the negative potential of the polarized AC outlet. This plug cannot be inserted into the unpolarized AC outlet.

AC outlets (switched)
Equipment consuming up to 100 watts can be connected to these outlets.
These outlets are controlled by the front panel SYSTEM POWER switch.

Caution
Do not connect any electrical home appliance such as an electric iron, fan, TV, video cassette recorder or other high-wattage equipment to these AC outlets.

AUDIO OUTPUT AND TOTAL HARMONIC DISTORTION:

With 8-ohm load, both channels driven, from 20 – 20,000 Hz, rated 80 watts (STR-AV780) or 110 watts (STR-AV880) per channel minimum RMS power, with no more than 0.006% total harmonic distortion from 250 milliwatts to rated output.

OTHER SPECIFICATIONS

Amplifier section

Dynamic power output

STR-AV780
130 watts + 130 watts (8 ohms, at 1 kHz IHF)
160 watts + 160 watts (6 ohms, at 1 kHz IHF)
180 watts + 180 watts (4 ohms, at 1 kHz IHF)

STR-AV880
170 watts + 170 watts (8 ohms, at 1 kHz IHF)
210 watts + 210 watts (6 ohms, at 1 kHz IHF)
250 watts + 250 watts (4 ohms, at 1 kHz IHF)

Harmonic distortion
Less than 0.006% at rated output

Intermodulation (IM) distortion
(60 Hz : 7 kHz = 4 : 1)
Less than 0.006% at rated output

Frequency response
PHONO: RIAA equalization curve ± 0.5 dB
CD/AUX, VIDEO 1, 2 (audio), TV (audio), TAPE 1, 2: 5 Hz - 100 kHz $^{+0}_{-1}$ dB

Residual noise: Less than 70 μV (8 ohms, network A)
Damping factor: 50 (8 ohms, 1 kHz)

Inputs

		Sensitivity	Impedance	S/N (weighting network, input level)
PHONO	MM	2.5 mV	50 kilohms	87 dB 79 dB* (A, 2.5 mV)
	MC (STR-AV880 only)	0.25 mV	100 ohms	69 dB 78 dB* (A, 0.25 mV)
CD/AUX VIDEO 1, 2 (audio) TV (audio) TAPE 1, 2		150 mV	50 kilohms	105 dB 86 dB* (A, 150 mV)

*'78 IHF

Outputs: REC OUT 1, 2, VIDEO 1 AUDIO OUT
Voltage 150 mV
Impedance 10 k ohms
SPEAKER A, B
Accepts speakers of 8 – 16 ohms.
HEADPHONES
Accepts low and high impedance headphones.

Tone controls: BASS
±8 dB at 100 Hz
TREBLE
±8 dB at 10 kHz

Subsonic filter: 6 dB/oct. attenuation below 15 Hz

Video section

Inputs: TV, VIDEO 1, 2: 1 Vp-p, 75 ohms unbalanced
Outputs: VIDEO 1, MONITOR VIDEO OUT: 1 Vp-p, 75 ohms unbalanced

FM tuner section

Tuning range: 87.5 MHz - 108 MHz
Antenna terminals: 75 ohms, unbalanced (2)
Intermediate frequency: 10.7 MHz
Sensitivity at 50 dB quieting
16.1 dBf, 3.5 μV (mono)
38.3 dBf, 45 μV (stereo)
Usable sensitivity: 10.3 dBf, 1.8 μV (IHF)
Signal-to-noise ratio: 82 dB (mono), 76 dB (stereo)
Harmonic distortion: 0.05% (mono), 0.1% (stereo) at 1 kHz, WIDE
IM distortion: 0.05% (mono), 0.1% (stereo), WIDE
Separation: 50 dB at 1 kHz, WIDE
Frequency response: 30 Hz - 15 kHz $^{+0.5}_{-1.5}$ dB
Selectivity: 65 dB at 400 kHz, NORMAL
30 dB at 400 kHz, WIDE
Capture ratio: 1.2 dB
AM suppression ratio: 54 dB
Image response ratio: 80 dB
IF response ratio: 90 dB
Spurious response ratio
100 dB
RF intermodulation: 65 dB
Searching threshold: LOW 30 dBf, MID 40 dBf, HIGH 50 dBf

AM tuner section

Tuning range: 530 - 1,610 kHz (with the AM tuning interval set at 10 kHz)
531 - 1,602 kHz (with the AM tuning interval set at 9 kHz)
Antenna: Layout-free antenna
External antenna terminal
Intermediate frequency
450 kHz
Usable sensitivity: 50 dB/m, layout-free antenna (at 1,000 kHz)
100 μV, external antenna terminal (at 1,000 kHz)
Signal-to-noise ratio: 54 dB (at 50 mV/m)
Harmonic distortion: 0.3% (at 50 mV/m, 400 Hz)
Selectivity: 40 dB (10 kHz)
Searching threshold: 55 dB/m

General

System	Tuner section: PLL quartz-locked digital synthesizer system Preamplifier section: low-noise NF type equalizer amp Power amplifier section: pure-complementary SEPP
Power requirements	120 V AC, 60 Hz
Power consumption	**STR-AV780:** 150 watts **STR-AV880:** 200 watts
AC outlets	Two switched (total 100 watts)
Dimensions	Approx. 430 × 130 × 345 mm (w/h/d) ($17 \times 5^{1}/_{8} \times 13^{5}/_{8}$ inches) including projecting parts and controls
Weight	**STR-AV780** Approx. 8.2 kg (18 lb 2 oz) net Approx. 9.4 kg (20 lb 12 oz) in shipping carton **STR-AV880** Approx. 9.6 kg (21 lb 3 oz) net Approx. 10.8 kg (23 lb 13 oz) in shipping carton
Accessories supplied	FM ribbon antenna (1) AM layout-free antenna (1) External antenna connector (1) RM-U880 Remote Commander with two size AA (IEC designation R6) batteries and a 4-pin flat cord (STR-AV880 only)

Design and specifications subject to change without notice.

TROUBLESHOOTING

Before proceeding through the checklist below, examine the connections and the procedures outlined in the manual. Should any problem persist after you have checked the following items, consult your nearest Sony service facility.

	PROBLEM	CAUSE	SOLUTION
Broadcast program	STEREO indicator flickers or does not appear when receiving stereo programs.	A very weak FM station or a noisy FM program is received.	Adjust the antenna or connect an external FM antenna.
			Press the FM MODE key to set to HI-BLEND or MONO mode.
	No FM station can be located by station searching.	The signal strength of the stations are weak.	Press the FM LEVEL key to set to MID or LOW level.
	No AM station can be located by station searching.	The AM tuning interval is set incorrectly.	Change the tuning interval according to the AM frequency allocation system of your country. (See page 3.)
		The signal strength of the stations are too weak for station searching.	Adjust the antenna.
			Tune in the stations with the direct access tuning.
	Stations cannot be tuned in correctly when the number key is pressed.	The frequency has not been memorized correctly.	Memorize the frequency correctly. (See page 11.)
Video program	Picture does not appear.	VCR, TV tuner or TV connection is not correct.	Check and connect the equipment correctly.
		The function switch on the VCR is not set correctly.	Check and set the switch appropriately.
		The TV is not turned on.	Turn the TV on.
Amplifier	Sound is not heard.	The speaker or program source equipment is not connected correctly.	Check and connect the equipment correctly.
		The SPEAKERS selectors are not set correctly.	Set the selectors correctly. (See page 5.)
		The MONITOR key has been pressed for a program source other than tape deck 2.	Press to disengage it.
		The correct FUNCTION key is not pressed.	Press the correct FUNCTION key.
		The function switch on the VCR is not set correctly.	Check and set the switch appropriately.
		The volume is set to minimum.	Increase the volume.
	One channel does not transmit audio, or the volume from the left and right speakers is unbalanced.	The BALANCE control keys are not set appropriately.	Adjust the BALANCE control keys.
		The speaker or program source is not connected correctly.	Check and connect the equipment correctly.
	There is an abrupt loss of sound from one or both of the speakers, and the PROTECTOR indicator flickers in the display window.	A short-circuit problem activates the protective circuit.	Turn off the receiver, eliminate the short-circuit problem and turn on the power again. If there is no short-circuit, consult your nearest Sony dealer.
	Sound transmitted from the speakers is reversed.	The speakers are not connected correctly.	Connect the right speaker to the R SPEAKER terminals and the left speaker to the L SPEAKER terminals.
	There is lack of bass sound or the instrument position is not obscure.	The speaker is connected with the reversed polarities.	Connect the speaker with the correct ⊕ ⊖ polarities.

	PROBLEM	CAUSE	SOLUTION
Amplifier	Severe hum or noise is heard.	The connecting cords are not of shielded type.	Use shielded connecting cords.
		A transformer, motor, TV or fluorescent light affects the connecting cords.	Place the connecting cords in a location away from a transformer or motor, and at least 3 meters (10 feet) from a TV set or a fluorescent light.
		The audio components are too close to a TV set.	If both are used at the same time, separate the TV from the audio components.
		The receiver is not grounded.	Connect the ground wire to the antenna ground terminal.
		The connections are loose.	Make secure connections.
		The plugs and jacks are dirty.	Wipe the plugs and jacks with a cloth lightly dampened with alcohol.
	The Remote Commander does not operate.	The batteries are exhausted.	Replace the batteries with new ones.
		The MAIN POWER switch on the receiver is not depressed.	Depress the MAIN POWER switch.

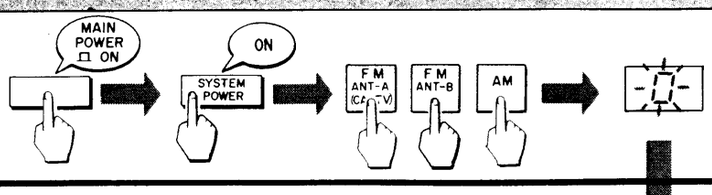
VIDEO OPERATION

The following operations are possible when the stereo receiver is connected to the equipments indicated in the connection diagram on page 20.
They may not be possible, depending on your video system.

Equipment to be used / Operation	Stereo receiver			Color monitor	TV tuner	VCR 1	VCR 2
	FUNCTION key and F/R key	**EDIT VIDEO key**	**EDIT AUDIO key**				
To view a VCR 1 playback	VIDEO 1	Release	Release	ON	OFF	Playback	OFF
To view a VCR 2 playback	VIDEO 2 ↓ F/R to REAR	Release	Release	ON	OFF	OFF	Playback
To view a TV program from the TV tuner	TV	Release	Release	ON	Tune in a TV program.	OFF	OFF
To record a TV program	VIDEO 1	Release	Release	ON	OFF	Tune in a TV program and record it.	OFF
	TV	Press	Release	ON	Tune in a TV program.	Set the input selector to LINE and record the program.	OFF
To view one TV program while recording another	TV	Release	Release	ON	Tune in a TV program.	Tune in the other TV program and record it.	OFF
To receive an FM simulcast TV program	TV ↓ FM/AM	Release	Release	ON	Tune in a TV program.	OFF	OFF
	VIDEO 1 ↓ FM/AM	Release	Release	ON	OFF	Tune in a TV program.	OFF
To record an FM simulcast TV program	TV ↓ FM/AM	Release	Press	ON	Tune in a TV program.	Set the input selector to LINE and record the program.	OFF
To record audio on a VCR	Select the desired audio source.	Release	Press	OFF	OFF	Set the input selector to LINE and record the program.	OFF
To edit a video tape	VIDEO 2 ↓ F/R to REAR	Press	Release	ON	OFF	Set the input selector to LINE and record the program.	Playback
To add new sound during video tape editing	VIDEO 2 ↓ F/R to REAR ↓ Select the audio source to be added.	Release	Press	ON	OFF	Set the input selector to LINE and record the program.	Playback

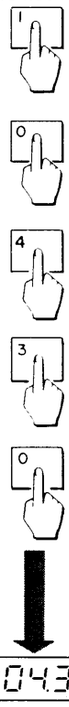
QUICK REFERENCE

BROADCAST RECEPTION



Direct access tuning

FM 104.30 MHz

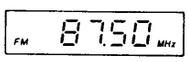


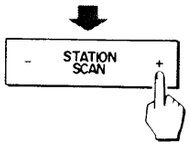
Station searching

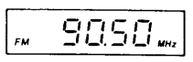
All receivable stations will be located.

Station scan tuning

Input any frequency within the band.

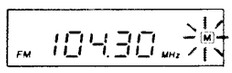




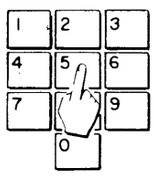


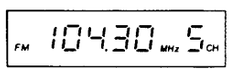
Memory presetting

Tune in the desired station.

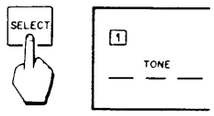


While "M" is displayed

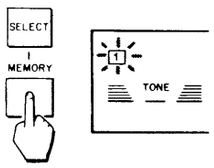




ACOUSTIC PRESETTING



Adjust the tonal quality to your preference.



While the acoustic memory number flashes

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